

## **REMARKS**

In view of the following remarks, reconsideration of the rejections and further examination are requested. Claims 1-7 are pending with claim 1 being independent. No new matter has been added.

### ***Rejections Under 35 U.S.C. §102(a)(e)***

Claims 1-7 have been rejected under 35 U.S.C. §102(a)(e) as being anticipated by Shiba (U.S. 2005/0093478).

Applicants respectfully traverse this rejection and submit that independent claim 1 is allowable over the cited prior art. Specifically, independent claim 1 recites a dielectric barrier discharge lamp lighting device for driving a dielectric barrier discharge lamp having an inner electrode and an external electrode comprising a transformer that includes a primary coil and a secondary coil, and supplies a driving voltage to the dielectric barrier discharge lamp from the secondary coil, a driving circuit that controls an input voltage to the transformer to supply the driving voltage with a driving frequency  $f_d$  to the dielectric barrier discharge lamp, wherein a self-resonant frequency  $f_r$  of the secondary coil, which is measured with the primary coil of the transformer being open, is equal to the driving frequency  $f_d$  or a frequency in the vicinity of the driving frequency  $f_d$ .

Applicants specifically note that the invention covered by this claim includes a self-resonant frequency  $f_r$  of the secondary coil that is equal to the driving frequency  $f_d$  or a frequency in the vicinity of the driving frequency  $f_d$ . Applicants submit that *the self-resonant frequency  $f_r$*  is one of characteristics of the transformer, which is caused by a parasitic capacitance in the coils and an inductance of the coils of the transformer (*see* page 14 line 8 to 20 in the original specification).

Applicants submit that the cited prior art fails to disclose or render obvious such a device. In particular, Shiba discloses a lighting device including a pulse number judging circuit that judges a number of the drive signal pulses per unit time corresponding to the dimming ratio based on an external dimming signal from and outputs a pulse number setting signal, and a drive

signal generating circuit that outputs a rectangular drive signal including a predetermined number of pulses with the predetermined number being defined by the pulse number setting signal, in order to prevent flickering in dimming control.

Thus, while Shiba arguably discloses a driving frequency, Shiba clearly fails to disclose a self-resonant frequency. Accordingly, Shiba fails to disclose the relationship between the drive frequency and the self-resonant frequency, recited in claim 1.

The Examiner appears to compare the driving frequency recited in claim 1 with the drive signal P1, P2 disclosed in Shiba, but does not specifically cite an element in Shiba that corresponds to the self-resonant frequency recited in claim 1. The Examiner appears to contend that the self-resonant frequency  $f_r$  of the secondary coil, which is measured with the primary coil of the transformer being open is disclosed by the semiconductor switching element S2 of Shiba being off. *See* Office Action pg. 3, lines 1-5. Additionally, the Examiner appears to assert that Shiba discloses adjusting a driving signal of the transformer and that such a disclosure teaches that a self-resonant frequency is equal to the driving frequency or a frequency in the vicinity of the driving frequency. *See id.* Based on these statements, the Examiner appears to have confused *a self-resonant frequency* with *a drive frequency*.

Therefore, Applicants submit that while Shiba may disclose a drive frequency, there is no disclosure in Shiba of a self-resonant frequency of the secondary coil, let alone that such a self-resonant frequency is equal to the driving frequency  $f_d$  or a frequency in the vicinity of the driving frequency  $f_d$ , as recited in claim 1.

Additionally, there is no reasoning in the prior art to modify Shiba such that it would have rendered claim 1 obvious. Therefore, Applicants submit that independent claim 1 and its dependent claims are allowable over the cited prior art.

### ***Conclusion***

In view of the foregoing amendments and remarks, all of the claims now pending in this application are believed to be in condition for allowance. Reconsideration and favorable action are respectfully solicited.

Should the Examiner believe there are any remaining issues that must be resolved before this application can be allowed, it is respectfully requested that the Examiner contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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